

2N5400  
2N5401

SILICON  
PNP TRANSISTORS



TO-92 CASE

**Central**  
Semiconductor Corp.

www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N5400 and 2N5401 are silicon PNP transistors designed for high voltage amplifier applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

	SYMBOL	2N5400	2N5401	UNITS
Collector-Base Voltage	$V_{CBO}$	130	160	V
Collector-Emitter Voltage	$V_{CEO}$	120	150	V
Emitter-Base Voltage	$V_{EBO}$		5.0	V
Continuous Collector Current	$I_C$		600	mA
Power Dissipation	$P_D$		625	mW
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$		1.5	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$		-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\Theta_{JA}$		200	$^\circ\text{C/W}$
Thermal Resistance	$\Theta_{JC}$		83.3	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N5400		2N5401		UNITS
		MIN	MAX	MIN	MAX	
$I_{CBO}$	$V_{CB}=100\text{V}$	-	100	-	-	nA
$I_{CBO}$	$V_{CB}=100\text{V}, T_A=100^\circ\text{C}$	-	100	-	-	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=120\text{V}$	-	-	-	50	nA
$I_{CBO}$	$V_{CB}=120\text{V}, T_A=100^\circ\text{C}$	-	-	-	50	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=3.0\text{V}$	-	50	-	50	nA
$BV_{CBO}$	$I_C=100\mu\text{A}$	130	-	160	-	V
$BV_{CEO}$	$I_C=1.0\text{mA}$	120	-	150	-	V
$BV_{EBO}$	$I_E=10\mu\text{A}$	5.0	-	5.0	-	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.2	-	0.2	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	0.5	-	0.5	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	1.0	-	1.0	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	1.0	-	1.0	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	30	-	50	-	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	40	240	60	240	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	40	-	50	-	
$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	400	100	300	MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	6.0	-	6.0	pF
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	30	200	40	200	
NF	$V_{CE}=5.0\text{V}, I_C=250\mu\text{A}, R_S=1.0\text{k}\Omega, f=10\text{Hz to } 15.7\text{kHz}$	-	8.0	-	8.0	dB

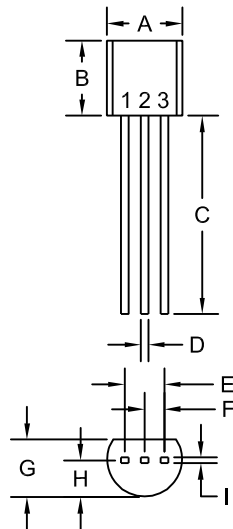
R1 (5-December 2014)

2N5400  
2N5401

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TO-92 CASE - MECHANICAL OUTLINE



R1

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:

FULL PART NUMBER

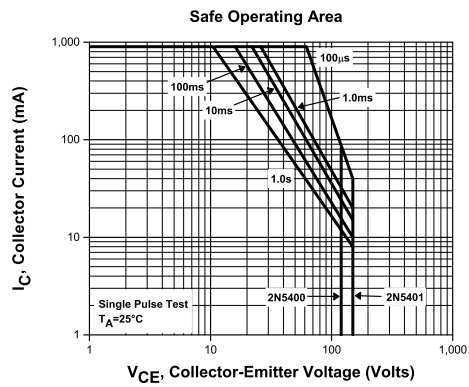
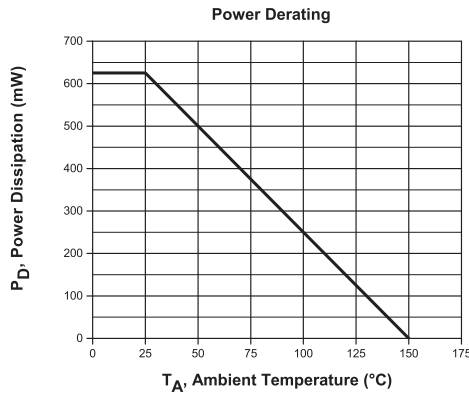
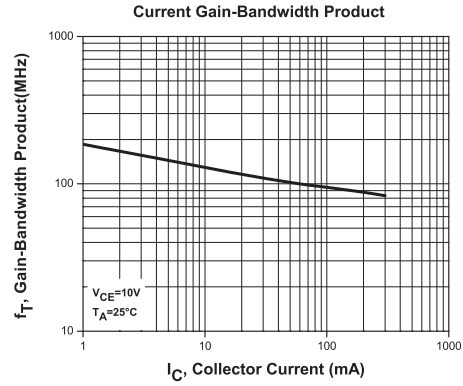
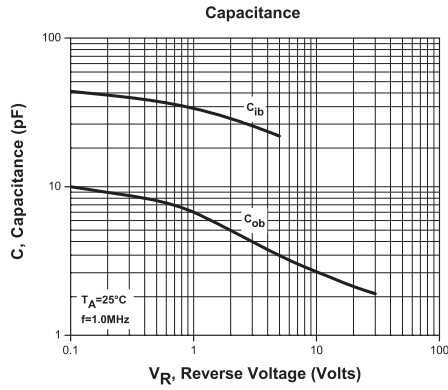
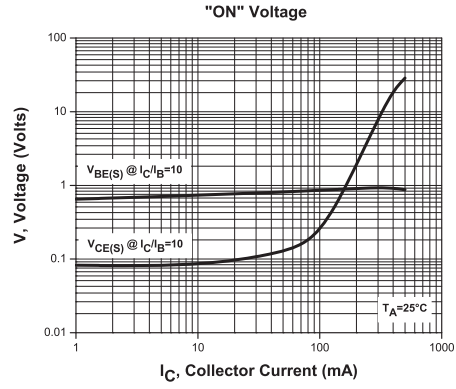
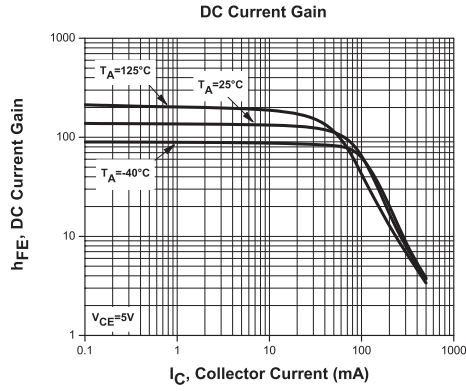
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TYPICAL ELECTRICAL CHARACTERISTICS



R1 (5-December 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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